

REVISION OF ORUS. II. SUBGENERA ORUS, PYCNORUS
AND NIVORUS
(COLEOPTERA: STAPHYLINIDAE)

By LEE H. HERMAN, JR.¹

The Paederinae genus *Orus* Casey, 1884, was erected to include “. . . the minute forms . . .” *Scopaeus exiguus* Erichson, *Orus picipes* Casey and *Orus punctatus* Casey. The species *Orus picipes* Casey and *Orus exiguus* (Erichson) were removed to a new genus, *Leptorus* Casey, 1886, now a junior synonym of *Scopaeus* Erichson. Five additional species, *Orus guatemalensis* Sharp, 1886, *Orus parallelus* Casey, 1886, and three by Fall in 1901, *Orus fraternus*, *Orus montanus* and *Orus femoratus*, increased the number of species to six. To this point, but for *Orus parallelus*, the species were described from at least one male. In 1905 Casey described six species, each from a female: *O. boreellus*, *O. longicollis*, *O. pugetanus*, *O. robustulus*, *O. pinalinus* and *O. deceptor*; six additional species were described from males: *O. sonamae*, *O. pallidus*, *O. filius*, *O. distinctus*, *O. shastanus* and *O. cervicula*. From a single female specimen, *O. provensis* Casey was described and *O. cervicula* was moved (Casey, 1910) to *Pseudorus* Casey, a new genus which is now a junior synonym of *Scopaeus* Erichson.

Described as new genera in 1905 were *Leucorus* Casey, treated by Herman (1965), and *Pycnorus* Casey. *Pycnorus* was erected to include *Scopaeus dentiger* LeConte, 1880, *Scopaeus armiger* Fall, 1902, and *Pycnorus iowanus*, a new species described from one female. Bernhauer and Schubert (1912) considered *Orus*, *Pycnorus*, and *Leucorus* as subgenera of *Scopaeus* which resulted in Scheerpeltz's renaming the preoccupied *Scopaeus (Orus) longicollis* (Casey) to *Scopaeus caseyanus*. Leng (1920) listed *Orus*, *Leucorus* and *Pycnorus* as separate genera; Blackwelder separated as genera *Scopaeus* and *Orus* including *Leucorus* and *Pycnorus* as subgenera of *Orus*. Blackwelder's (1939a) interpretation is followed here, using as a basis of separation of *Orus* and *Scopaeus* the thicker neck of *Orus*.

Two additional species, *Orus volans* and *Orus cameroni*, were described and included in the subgenus *Leucorus* by Blackwelder (1943); later these species were set aside in a separate subgenus *Nivorus* and *Orus guatemalensis* was placed in the subgenus *Leucorus* by Herman (1965).

The measurements used here were described previously by Herman (1965).

Acknowledgements. I thank the following for loan of specimens and/or use of holotypes: Mr. O. L. Cartwright and Dr. P. J. Spangler, U. S. National Museum; Dr. C. H. Seevers and Dr. R. W. Wenzel, Chicago Natural History Museum; Dr. H. J. Grant, Academy of Natural Sciences of Philadelphia; Miss C. M. R. von Hayek, British Museum (Natural History); Dr. M. W. Sanderson, Illinois State Natural History Survey; Mr. I. Moore, San Diego Natural History Museum; Dr. H. F. Howden and Mr.

¹ Department of Biology, Catholic University of America, Washington, D. C. 20017.

W. J. Brown, Canada Department of Agriculture; Dr. J. A. Powell, University of California; Mr. H. B. Leech, California Academy of Science; Dr. G. W. Byers, University of Kansas; Dr. L. L. Pechumen, Cornell University; Dr. P. J. Darlington, Museum of Comparative Zoology.

Genus *Orus* Casey

Orus Casey, 1884:136; 1885:315; 1886:221, 226-228; Fall, 1901:223-224; Casey 1905:191, 196-203; 1910:190; Bernhauer and Schubert 1912:245-251; Gibson and Treherne 1916:56; Treherne 1916:141-143; Leng 1920: 104; Scheerpeltz 1933:1265; Blackwelder 1936:52, 62, 91; 1939a:98, 105, 120; 1939b:24; 1943:230, 277-279; 1944:119; Clark 1949:21; Blackwelder 1952:278, 420; Hatch 1957:150, 159, 160, 343; Arnett 1961:244, 269; Herman 1965:112-121.

TYPE-SPECIES: *Orus punctatus* Casey, 1884. Fixed by Blackwelder (1939a) by subsequent designation.

Four subgenera, *Orus*, *Pycnorus*, *Leucorus*, and *Nivorus* are distinguished.

DESCRIPTION. Piceous, castaneous or testaceous, moderately pubescent. *Head:* quadrilateral to rectangular in dorsal aspect, sides broadly arcuate, truncate posteriorly, dorsum and venter punctate; gula with feeble to strong microreticulate ground sculpturing; labrum edentate, bidentate or quadridentate, long setae on anterior portion, with median emargination; mandibular dentition variable; eye feebly to strongly tapered posteriorly; postorbital setigerous fovea or furrow present. *Thorax:* neck usually $\frac{1}{4}$ or more as wide as head²; prothorax longer than wide; profemur robust, with meso-ventrally directed ctenidia on one side; protibia with scopae; protarsus expanded; mesosternal fovea present or absent; elytra indistinctly punctate, epipleuron margined; metafemur modified or not; metatibia with ctenidia on inner side of apex. *Abdomen:* punctulate; sterna of female unmodified; last two visible sterna of male variously modified. *Aedeagus:* median lobe bulbous; parameres connate, attenuate; dorso-basal median foramen, ostium apical or subapical, dorsal or ventral; circoforamen present; postforamen present or absent.

DISTRIBUTION: UNITED STATES, CANADA, MEXICO, WEST INDIES, GUATEMALA, SURINAM.

KEY TO THE DESCRIBED SPECIES OF ORUS AND PYCNORUS (MALES)

1. Gular tubercle prominent on males, prominent to feeble on females; gula impressed, with strong microreticulate ground sculpturing present in both sexes-----(**PYCNORUS**) 2
Gular tubercle absent in both sexes; gula not impressed (i.e. at same level as adjacent postgenae), microreticulate ground sculpturing absent or very feebly present in both sexes -----(**ORUS s. str.**) 3
2. Metatibia with row of spines on one side; metafemur usually with eleven denticles on the distal end; east of the Rocky Mountains-----**DENTIGER**
Metatibia without row of spines; metafemur usually with seven denticles on distal end; Rocky Mountains -----**PARALLELUS**
3. Last visible abdominal sternum shallowly incised (figs. 3, 8)----- 4
Last visible abdominal sternum deeply incised (fig. 2)----- 5
4. Fifth visible abdominal sternum emarginate (fig. 8); neck $\frac{1}{5}$ width of head----**MONTANUS**
Fifth visible abdominal sternum sinuo-truncate (fig. 3); neck $\frac{1}{4}$ or more the width of the head -----**SHASTANUS**
5. Fifth visible abdominal sternum with strongly sinuate margin (fig. 7)-----**SINUATUS**
Fifth visible abdominal sternum with margin lobed or emarginate----- 6

- | | | |
|----|--|-------------|
| 6. | Fifth visible abdominal sternum with margin shallowly emarginate (fig. 11)----- | FRATERNUS |
| | Fifth visible abdominal sternum with margin lobed----- | 7 |
| 7. | Fifth visible abdominal sternum with a tubercle----- | 9 |
| | Fifth visible abdominal sternum without a tubercle----- | 8 |
| 8. | Parameres short, not extending beyond apex of median lobe, broad, with lateral margins straight in dorsal aspect (figs. 22, 23)----- | HEMILOBATUS |
| | Parameres long, extending beyond end of median lobe, slender, lateral margins sinuate in dorsal aspect (figs. 16, 29)----- | PUNCTATUS |
| 9. | Abdominal tubercle well-developed, margined laterally by a carina (fig. 9); metafemur carinate ----- | FEMORATUS |
| | Abdominal tubercle feeble, not margined laterally by a carina; metafemur not carinate ----- | DISTINCTUS |

Subgenus *Orus* Casey

TYPE-SPECIES: *Orus punctatus* Casey, 1884. Fixed by Blackwelder (1939a) by subsequent designation.

DESCRIPTION. *Orus*: testaceous, castaneous or piceous. *Head*: quadrilateral in dorsal aspect; dorsum finely punctate; venter with sparse more distinct punctation, ground sculpture feeble, shining; gula with very feeble microreticulate ground sculpturing, not impressed; gular tubercle completely absent; gular sutures represented by increased pigmentation; labrum quadridentate; right mandible quadridentate, left mandible tridentate; setigerous postorbital fovea present, continuous with feeble to prominent supraorbital furrow. *Thorax*: anterior prothoracic angles evident; pronotal punctation distinct and umbilicate, median area impunctate; mesopleuron and mesosternum with reticulate ground sculpture; mesosternal fovea present; metafemur modified or not. *Abdomen*: last two visible sterna of male modified. *Aedeagus*: ostium beneath parameres; postforamen absent, median lobe membranous ventrally, ventral sclerite absent.

DISTRIBUTION. CANADA: British Columbia; UNITED STATES: Washington, Oregon, California, Arizona, Nevada, Idaho, Montana, Wyoming, Colorado.

DISCUSSION. Not discussed below are *Orus robustulus* Casey, 1905 (Lake Tahoe, California); *Orus pinalinus* Casey, 1905 (Pinal Mountains, Arizona); *Orus deceptor* Casey, 1905 (Humboldt Co., California); each was described from a single female specimen. Each may be distinguished from the others by size or facies but enough individual variation and overlap exist for these characters to make them unreliable. Association with a male has likewise been impossible. The only association possible, and that on distribution, is of *O. pinalinus* and *O. punctatus* both with representatives from Arizona.

Orus (Orus) punctatus Casey

FIGS. 2, 4-6, 16, 29, 33

Orus punctatus Casey, 1884:138; 1885:315, pl. 1, fig. 7-7c; Fall 1901:223; Casey 1905:200; Gibson 1916:205; Gibson and Treherne 1916:56; Treherne 1916:141-143; Leng 1920:104; Blackwelder 1936:52, 62, 91; 1939a:105, 120; 1939b:24; 1943:277; 1952:278; Clark 1949:21, Hatch 1957:159-160.

² The neck of *Orus montanus* is 1/5 the width of the head.

- Scopaeus (Orus) punctatus* (Casey), Bernhauer and Schubert 1912:251.
Orus filius Casey, 1905:200; Leng 1920:104; Blackwelder 1939a:105; 1939b:24. (NEW SYNONYMY).
Scopaeus (Orus) filius Casey, Bernhauer and Schubert 1912: 247.
Orus pallidus Casey, 1905:199; Leng 1920:104; Blackwelder 1939a:105; 1939b:24 (NEW SYNONYMY).
Scopaeus (Orus) pallidus (Casey), Bernhauer and Schubert 1912:250.
Orus sonomae Casey, 1905:198; Leng 1920:104; Blackwelder 1939a:105; 1939b:24. (NEW SYNONYMY).
Scopaeus (Orus) sonomae (Casey), Bernhauer and Schubert 1912:251.

HOLOTYPE of *Orus punctatus* Casey: California; U. S. National Museum; male. At the Museum of Comparative Zoology is a specimen of *Orus punctatus* labeled as "Type." In the Casey Collection of the U. S. National Museum are two specimens labeled as "?Type" and "Neotype." Each of the specimens fits the description of *Orus punctatus* but the original description is of one specimen from California. The neotypic designation is invalid and no evidence has been found that the holotype was deposited at M.C.Z.; I therefore accept the specimen in the Casey Collection labeled as "?Type" as the holotype.

HOLOTYPE of *Orus filius* Casey: Mokelumne Hill, California; U. S. National Museum; male.

HOLOTYPE of *Orus pallidus* Casey: California; U. S. National Museum; male. Paratypes: 5 males, 2 females.

HOLOTYPE of *Orus sonomae* Casey: California; U. S. National Museum; male.

DESCRIPTION OF THE HOLOTYPE. *Orus*; (*Orus*); piceous; appendages castaneous; male. *Head*: dorsum uniformly punctate; .49 mm. long, .43 mm. wide. *Thorax*: pronotum .48 mm. long, .42 mm. wide; elytra .63 mm. long, .54 mm. wide. *Abdomen*: fifth visible sternum with a lobed margin; lobe broad with the posterior margin arcuate; slightly impressed medially; last visible sternum deeply and broadly incised, mesal margins of apices parallel, convergent basally (fig. 2). *Aedeagus*: parameres in lateral aspect strongly acuminate, in dorsal aspect broad, lateral margins sinuate, attenuate distally; circoforamen well-developed (figs. 16, 29).

VARIATION. Body coloration may be castaneous, testaceous or piceous. Ground sculpturing of the head and pronotum may be feebly to strongly microreticulate or absent; the gula may be slightly impressed, but without a tubercle. Greatest variation is of the lobe of the penultimate sternum, examples of which are shown in figs. 2, 4-6; all degrees of intergradation of this character exist and from any one locality, in collections of the same date, several different lobed conditions may be found.

Size variation is as follows: head .50 mm.-.56 mm. long, .44 mm.-.47 mm. wide; pronotum .50 mm.-.56 mm. long; .40 mm.-.45 mm. wide; elytra .58 mm.-.70 mm. long, .54 mm.-.66 mm. wide. The length of the parameters may vary slightly.

DISTRIBUTION (fig. 33). **BRITISH COLUMBIA**: Terrace (Nov. 24, 1923); **CALIFORNIA**: *Calveras Co.*: Mokelumne Hill (July 18, 1910); *San Diego Co.*: San Diego (June 5, 1950), Lakeside; *Alameda Co.*: Dimond (May 15, 1910), Oakland (Sept. 27, 1908, June 7, 1908); *Santa Cruz Co.*: Mount Hermon (July 28, 1922), Watsonville (July 3, 1936); *Sonoma Co.*: Duncan Mills (July 21, 1908); *Sacramento Co.*:

Folsom; *Los Angeles Co.*: Mount Wilson; *Fresno Co.*: Fresno; *Riverside Co.*: Palm Springs (May 30, 1905); *Mendocino Co.*: Rancheria Creek 5.5 miles SE Boonville (June 15, 1950), Ukiah (Sept. 30, 1906); *Marin Co.*: Taylorville (Dec. 28, 1919); *Santa Clara Co.*: Los Gatos (June 4, 7, 1910); *Humboldt Co.*: Willow Creek (June 14, 15, 1916); *Lake Co.*: Lakeport (June 4, 1922), McNeill's pond, 3 miles N. Lakeport (Aug. 3, 1955); Sugar Pine; Shasta Springs (July 6, 1904); *San Mateo Co.*; *Contra Costa Co.*; *Orange Co.*: Foster. MONTANA: *Hill Co.*: Bearpaw Mountain (Nov. 3, 4, 1917); *Flat Head Co.*: Kalispell (June 13, 1920). ARIZONA: *Coconino Co.*: Williams (June 9, 13), Flagstaff. OREGON: *Multnomah Co.*: Portland (July 12, 1898). WASHINGTON: *Thurston Co.*: Tenino; Spokane Falls; *Yakima Co.*: Yakima. COLORADO: *Summit Co.*: Breckenridge (July 15-18, 1896, at 9600-10,000 feet elevation). NEVADA: *Ormsby Co.*: Lake Tahoe.

BIOLOGY. This species has been reported as a predator of *Hylemya brassicae* (Bouché), the cabbage maggot; experiments showed 50-100% of the eggs and young maggots were eaten when offered. In captivity *Orus punctatus* lived for 3-87 days. (Gibson 1916, Gibson and Treherne 1916, Treherne 1916.)

"Wherever there is a rivulet or a pond this species may be gathered in multitudes amongst the rubbish along the bank" (Casey, 1886) at various times during May through December.

DISCUSSION. The variation of the sternal character (figs. 2, 4, 5, 6) makes it impossible to separate the specimens and the aedeagus is virtually identical in all the specimens examined. The holotypes of *O. filius*, *O. pallidus* and *O. sonomae* are represented within the range of variation and are considered to be variants of *Orus punctatus*.

Orus (Orus) shastanus Casey

FIGS 3, 17, 30, 33

Orus shastanus Casey, 1905:201; Leng 1920:104; Blackwelder 1939a:105; 1939b:24.

Scopaeus (Orus) shastanus (Casey), Bernhauer and Schubert 1912:251.

Orus pugetanus Casey, 1905:198; Leng 1920:104; Blackwelder 1939a:105; 1939b:24. (NEW SYNONYMY)

Scopaeus (Orus) pugetanus (Casey), Bernhauer and Schubert 1912:250.

HOLOTYPE of *Orus shastanus* Casey: Siskiyou County, California; U. S. National Museum; male. Paratypes: 1 male, 2 females.

HOLOTYPE of *Orus Pugetanus* Casey: Spokane, Washington; U. S. National Museum; female.

DESCRIPTION OF THE HOLOTYPE. *Orus*; (*Orus*); castaneous, appendages paler; male. **Head:** dorsum with sparse and feeble punctation, dense microreticulate ground sculpturing; .50 mm. long, .44 mm. wide. **Thorax:** pronotum with sparse punctation, moderately distinct, with dense microreticulate ground sculpturing; pronotum .47 mm. long, .40 mm. wide; elytra .60 mm. long, .54 mm. wide. **Abdomen:** fifth visible sternum with margin sinuo-truncate, margin becoming acute at middle, sternum with broad, shallow, median impression; last visible sternum broadly and shallowly incised, anterior margin and apices of incision broadly rounded (fig. 3). **Aedeagus:** parameres in dorsal aspect attenuate, in lateral aspect base broad and becoming attenuate distally (figs. 17, 30).

VARIATION. Size: head .50 mm.-.54 mm. long, .44 mm.-.47 mm. wide; pronotum .47 mm.-.54 mm. long, .40 mm.-.45 mm. wide; elytra .68 mm.-.72 mm. long, .56 mm.-.67 mm. wide.

DISTRIBUTION (fig. 33). CALIFORNIA: *Siskiyou Co.*: Shasta Retreat (July, at 2416 feet elevation); *Shasta Co.*: Crag Castle (July 26, 1896). NEVADA: *Ormsby Co.*: Lake Tahoe.

Orus (Orus) sinuatus Herman, NEW SPECIES

FIGS. 7, 19, 26, 33

HOLOTYPE: Duncan Mills, Sonoma County, California; F. E. Blaisdell collector; July 21, 1908; male; to be deposited in the California Academy of Science. Paratypes: 6 males, 4 deposited with the holotype, 2 in the Chicago Natural History Museum.

DESCRIPTION OF THE HOLOTYPE. *Orus*; (*Orus*); male; piceous. *Head*: dorsum with sparse, feeble punctation, ground sculpturing absent; .50 mm. long, .44 mm. wide. *Thorax*: pronotum with moderate, distinct punctation, ground sculpturing absent; pronotum .48 mm. long, .39 mm. wide; elytra .61 mm. long, .54 mm. wide. *Abdomen*: fifth visible sternum with posterior margin sinuate and with slight, median, oval depression; last visible sternum with broad, deep incision; mesal margins of incision convergent, not parallel at any portion (fig. 7). *Aedeagus*: apical third of parameres reduced to a carina, carina not triangular dorso-ventrally (figs. 19, 26).

VARIATION. Size: head .49 mm.-.54 mm. long, .42 mm.-.48 mm. wide; pronotum .47 mm.-.54 mm. long, .36 mm.-.46 mm. wide; elytra .61 mm.-.68 mm. long, .54 mm.-.62 mm. wide.

DISTRIBUTION (fig. 33). CALIFORNIA: *Sonoma Co.*: Duncan Mills (July 21, 1908). WASHINGTON: *King Co.*: Baring (July).

Orus (Orus) montanus Fall

FIGS. 8, 20, 27, 33

Orus montanus Fall, 1901:223; Casey 1905:198; Leng 1920: 104; Blackwelder 1939a:105, 1939b:24.

Scopaeus (Orus) montanus (Fall), Bernhauer and Schubert 1912:249.

HOLOTYPE: San Bernardino Mountains, California; Museum of Comparative Zoology; male. Paratype: 1 female.

DESCRIPTION OF THE HOLOTYPE. *Orus*; (*Orus*); piceous; male. *Head*: .57 mm. long; .57 mm. wide; neck 1/5 as wide as head. *Thorax*: pronotum .61 mm. long, .48 mm. wide; elytra .66 mm. long, .67 mm. wide. *Abdomen*: margin of fifth visible sternum with broad, shallowly v-shaped emargination; margin of last visible sternum shallowly incised (fig. 8). *Aedeagus*: parameres reduced to carina, carina dorso-ventrally triangular (figs. 20, 27).

One specimen examined. Distribution in fig. 33.

Orus (Orus) femoratus Fall

FIGS. 9, 18, 21, 33

Orus femoratus Fall, 1901:224; Casey 1905:202; Leng 1920:104.

Scopaeus (Orus) femoratus (Fall), Bernhauer and Schubert 1912:247.

HOLOTYPE: Marin County, California; Museum of Comparative Zoology; male.

DESCRIPTION OF THE HOLOTYPE. *Orus*; (*Orus*); piceous; male. *Head:* dorsum with anterior median region impunctate, shining; .50 mm. long, .46 mm. wide; gula slightly depressed. *Thorax:* pronotum with distinct punctation, median area impunctate, shining, without ground sculpturing; pronotum .50 mm. long, .42 mm. wide; elytra .63 mm. long, .54 mm. wide; metafemur robust with a carina on dorsal, posterior edge. *Abdomen:* fifth visible sternum with lobed posterior margin, with a large median tubercle, deep depression before tubercle; tubercle with strong, arcuate carina laterad; last visible sternum deeply incised; incision with anterior margin broadly rounded, broader medially than apically; apices turned mesally (fig. 9). *Aedeagus:* parameres narrower basally than medially in dorsal aspect, not extending beyond posterior margin of median lobe; circoforamen large, well-developed (figs. 18, 21).

One specimen examined. Distribution in fig. 33.

Orus (*Orus*) *hemilobatus* Herman, NEW SPECIES

FIGS. 10, 22, 23, 33

HOLOTYPE: Mokelumne Hill, Calaveras County, California; F. E. Blaisdell collector; male; to be deposited in the California Academy of Science. Paratypes: 15 males; 13 to be deposited with the holotype; 2 to be deposited at the U. S. National Museum.

DESCRIPTION OF THE HOLOTYPE. *Orus*; (*Orus*); piceous; male. *Head:* dorsum with dense, distinct punctation; ground sculpturing obscure; .50 mm. long, .45 mm. wide. *Thorax:* pronotum with distinct punctation; microreticulate ground sculpturing; pronotum .50 mm. long, .42 mm. wide; elytra .67 mm. long, .60 mm. wide. *Abdomen:* fifth visible sternum with margin feebly lobed and slightly sinuate, with a feeble median depression; last visible sternum with incision similar to that of *Orus punctatus* (fig. 10). *Aedeagus:* parameres short, not extending to posterior margin of median lobe, broad, side margins straight in dorsal aspect, apex directed dorsally; circoforamen u-shaped (figs. 22, 23).

VARIATION. Head .47 mm.-.54 mm. long, .40 mm.-.46 mm. wide; pronotum .47 mm.-.50 mm. long, .37 mm.-.45 mm. wide; elytra .60 mm.-.67 mm. long, .54 mm.-.67 mm. wide.

DISTRIBUTION (fig. 33). CALIFORNIA: *Calaveras Co.:* Mokelumne Hill (July 25, 27; Oct.); *Sacramento Co.:* Folsom; *Butte Co.:* Oroville (June 24, 1927); *Amador Co.:* Sutter Creek (Aug. 4, 1904); *Siskiyou Co.:* Sissons (June); *Fresno Co.:* Fresno.

Orus (*Orus*) *fraternus* Fall

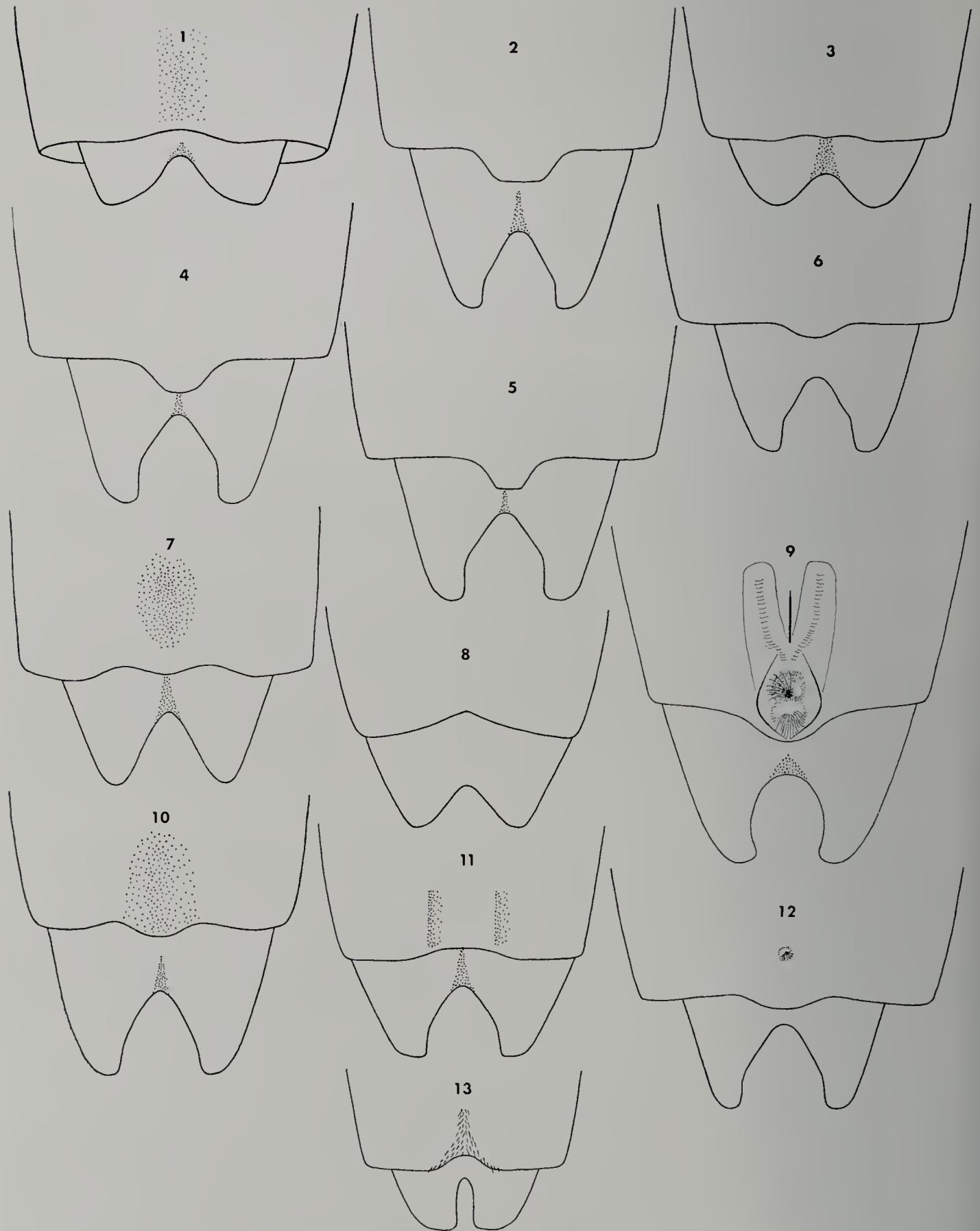
FIGS. 11, 24, 32, 33

Orus fraternus Fall, 1901:223; Casey 1905:201; Leng 1920:104; Blackwelder 1939a:105; 1939b:24.

Scopaeus (*Orus*) *fraternus* (Fall), Bernhauer and Schubert 1912:247.

HOLOTYPE: Pomona, California; Museum of Comparative Zoology; male. Paratypes: 1 male, 5 females.

DESCRIPTION OF THE HOLOTYPE. *Orus*; (*Orus*); piceous; male. *Head:* dorsum with uniform punctation, with dense microreticulate ground sculpturing; .48 mm. long, .49 mm. wide. *Thorax:* pronotum with distinct, umbilicate punctation, with microreticulate ground sculpturing; pronotum .48 mm. long, .40 mm. wide; elytra



FIGURES 1-13, *Orus* spp., apical abdominal sterna of males. 1—*dentiger*. 2, 4, 5, 6—*punctatus*, variation of the lobe of the penultimate abdominal sternum. 3—*shastanus*. 7—*sinuatus*. 8—*montanus*. 9—*femoratus*. 10—*hemilobatus*. 11—*fraternus*. 12—*distinctus*. 13—*surinamensis*.

.56 mm. long, .52 mm. wide. *Abdomen*: fifth visible sternum with margin broadly and shallowly emarginate; sternum with median, longitudinal, shallow depression margined laterally by low broadly rounded ridges; last visible sternum incised as on *Orus punctatus* (fig. 11). *Aedeagus*: parameres broader medially than basally in dorsal aspect, attenuate distally, median lateral margins reflexed; circoformen large, well-developed (figs. 24, 32).

Distribution in fig. 33.

Orus (Orus) distinctus Casey

FIGS. 12, 33

Orus distinctus Casey, 1905:201, Leng 1920: 104; Blackwelder 1939a:105; 1939b:24.

Scopaeus (Orus) distinctus (Casey), Bernhauer and Schubert 1912:247.

HOLOTYPE: Santa Cruz Mountains, California; U. S. National Museum; male. Paratypes: 2 males, 3 females.

DESCRIPTION OF THE HOLOTYPE. *Orus*; (*Orus*); piceous; appendages castaneous; male. *Head*: dorsum with posterior portion uniformly and distinctly punctate, punctation becoming weak anteriorly, with very feeble microreticulate ground sculpturing; .52 mm. long, .46 mm. wide. *Thorax*: pronotum with feeble microreticulate ground sculpturing; pronotum .50 mm. long, .41 mm. wide; elytra .64 mm. long, .64 mm. wide. *Abdomen*: fifth visible sternum with feebly lobed margin, with slight tubercle at middle near apex (fig. 12). *Aedeagus*: similar to *O. punctatus* (see figs. 16, 29).

VARIATION. Head .50 mm.-.54 mm. wide, .44 mm.-.47 mm. wide; pronotum .49 mm.-.54 mm. long, .40 mm.-.43 mm. wide; elytra .62 mm.-.68 mm. long, .58 mm.-.67 mm. wide.

DISTRIBUTION (fig. 33). CALIFORNIA: *San Mateo Co.*; *Santa Cruz Co.*: Santa Cruz Mountains; *Humboldt Co.*: Willow Creek (June 15, 1916); *Marin Co.*: Fairfax (June 13, 1905). BRITISH COLUMBIA: Gale.

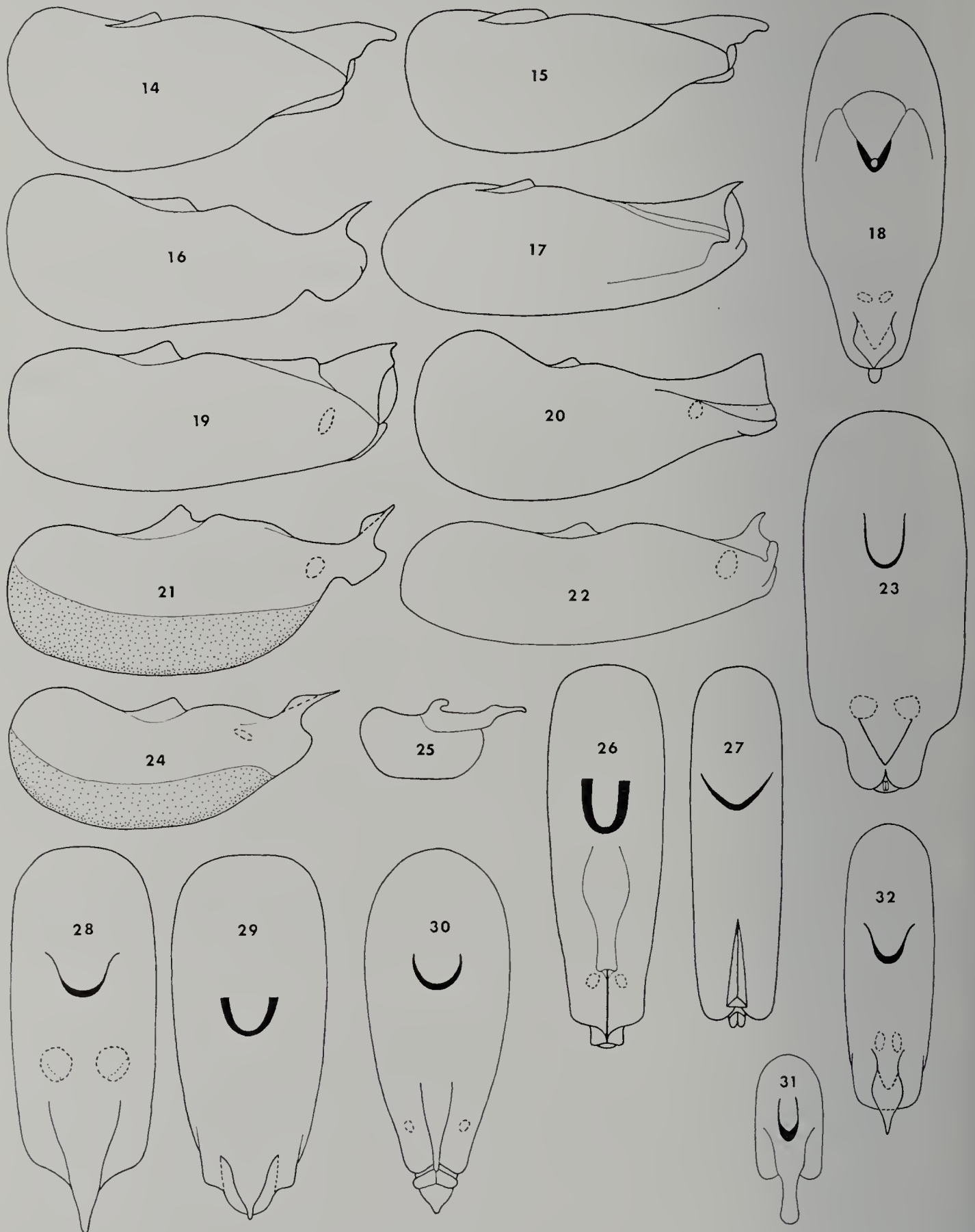
DISCUSSION. Though the lobing of the penultimate sternum of *O. punctatus* and the aedeagi of both species are virtually identical, the specimens are separable by the presence or absence of the small median tubercle. This tubercle was seen on 6 specimens.

Subgenus *Pycnorus* Casey

Pycnorus Casey, 1905:191, 192, 194; Blatchley 1910:433, 434. Bernhauer and Schubert 1912:245-248; Leng 1920:104; Blackwelder 1939a:98, 105, 121; 1939b:24; 1943:277; 1944:119; 1952:333, 420; Hatch 1957:159-160; Arnett 1961:245, 269; Herman 1965:112, 113.

TYPE-SPECIES: *Orus (Pycnorus) dentiger* (LeConte), 1880. Fixed by Blackwelder (1939a, p. 121) by subsequent designation.

DESCRIPTION. *Orus*; testaceous, castaneous or piceous. *Head*: rectangular in dorsal aspect; dorsum finely, uniformly punctate; venter with ground sculpture obscured by dense, prominent punctation; gula with very strong, reticulate ground sculpturing; labrum quadridentate; right mandible tridentate, left mandible quadridentate in male; right mandible quadridentate, left tridentate in females; basal tooth on both mandibles of male largest and separated from next denticle by about twice the distance separating the other denticles; gula depressed, with prominent tubercle



FIGURES 14-32, *Orus* spp., aedeagi; in the following, the first figure is the lateral view, the second figure is the dorsal view. 14, 28—*dentiger*. 15—*parallelus*. 16, 29—*punctatus*. 17, 30—*shastanus*. 19, 26—*sinuatus*. 20, 27—*montanus*. 21, 18—*femoratus*. 22, 23—*hemilobatus*. 24, 32—*fraternus*. 25, 31—*surinamensis*.

on anterior portion in males, distinct to feeble in females; gular sutures well-developed; venter flat, not as convex as in *Orus* s. str.; eye slightly tapered posteriorly; postorbital fovea with setigerous tubercle continuous with prominent supraorbital furrow. *Thorax*: anterior prothoracic angles not evident or slightly so; pronotal punctation distinct and umbilicate, median area impunctate; mesopleuron and mesosternum with reticulate ground sculpturing; mesosternal fovea present; metafemur of male serrate on inner, posterior surface, concave on inner face, tuft of long, appressed setae arising near trochanter. *Abdomen*: first four visible sterna of male each with a depression forming a trough on the abdomen, the depression surrounded by and/or containing setae; posterior margin of fifth visible sternum broadly and shallowly emarginate; posterior margin of last visible sternum broadly and shallowly incised. *Aedeagus*: ostium beneath the parameres; postforamen absent; median lobe membranous ventrally, oval sclerite absent.

DISTRIBUTION. CANADA: Quebec, Manitoba, British Columbia. UNITED STATES: Massachusetts, New York, New Jersey, Michigan, California, Idaho, Washington, Iowa, Illinois, Georgia(?).

DISCUSSION. In studying *Pycnorus* and *Orus* it was found that the females were not adequately defined subgenerically.

All of the females of *Orus* (*Pycnorus*) *dentiger* examined have a feeble to prominent gular tubercle, microreticulate gular ground sculpturing, a depressed gula and well-defined gular sutures; the same is true for the males of both species of *Pycnorus* in addition to the invariably prominent gular tubercle. All 140 males of *Orus*, described or undescribed, have a shining gula (i.e. at best with very feebly microreticulate ground sculpture), are without evidence of a gular tubercle, have feeble gular sutures, which are better noted by increased pigmentation in the vicinity, and have the gula not depressed. The females from the Rocky Mountains, presumably representing those of *Orus* (*Pycnorus*) *parallelus* and *Orus* s. str., can be separated by the characters of the gula noted above for the males. The females with the tuberculate, microreticulate depressed gula with well defined gular sutures I place in the subgenus *Pycnorus*. The holotypes of *O. parallelus*, *O. boreellus*, *O. caseyanus*, and *O. provensis*, all females, exhibit the gular modifications as described for *Pycnorus*; the western forms of *Pycnorus* are all considered variations of *O. parallelus*.

Orus (*Pycnorus*) *dentiger* (LeConte)

Figs. 1, 14, 28, 33

Scopaeus dentiger LeConte, 1880:179; Blatchley 1910:434.

Pycnorus dentiger (LeConte), Casey 1905:195, 196; Leng 1920:104.

Scopaeus (*Pycnorus*) *dentiger* (LeConte), Bernhauer and Schubert 1912:247.

Orus (*Pycnorus*) *dentiger* (LeConte), Blackwelder 1939a:105, 121; 1939b:24; 1952:333.

Pycnorus iowanus Casey, 1905:196; Leng 1920:104. (NEW SYNONYMY)

Scopaeus (*Pycnorus*) *iowanus* (Casey), Bernhauer and Schubert 1912:248.

Orus (*Pycnorus*) *iowanus* (Casey), Blackwelder 1939a:105; 1939b:24.

HOLOTYPE of *Scopaeus dentiger* LeConte: Massachusetts; Museum of Comparative Zoology; male.

HOLOTYPE of *Pycnorus iowanus* Casey: Iowa; U. S. National Museum; female.

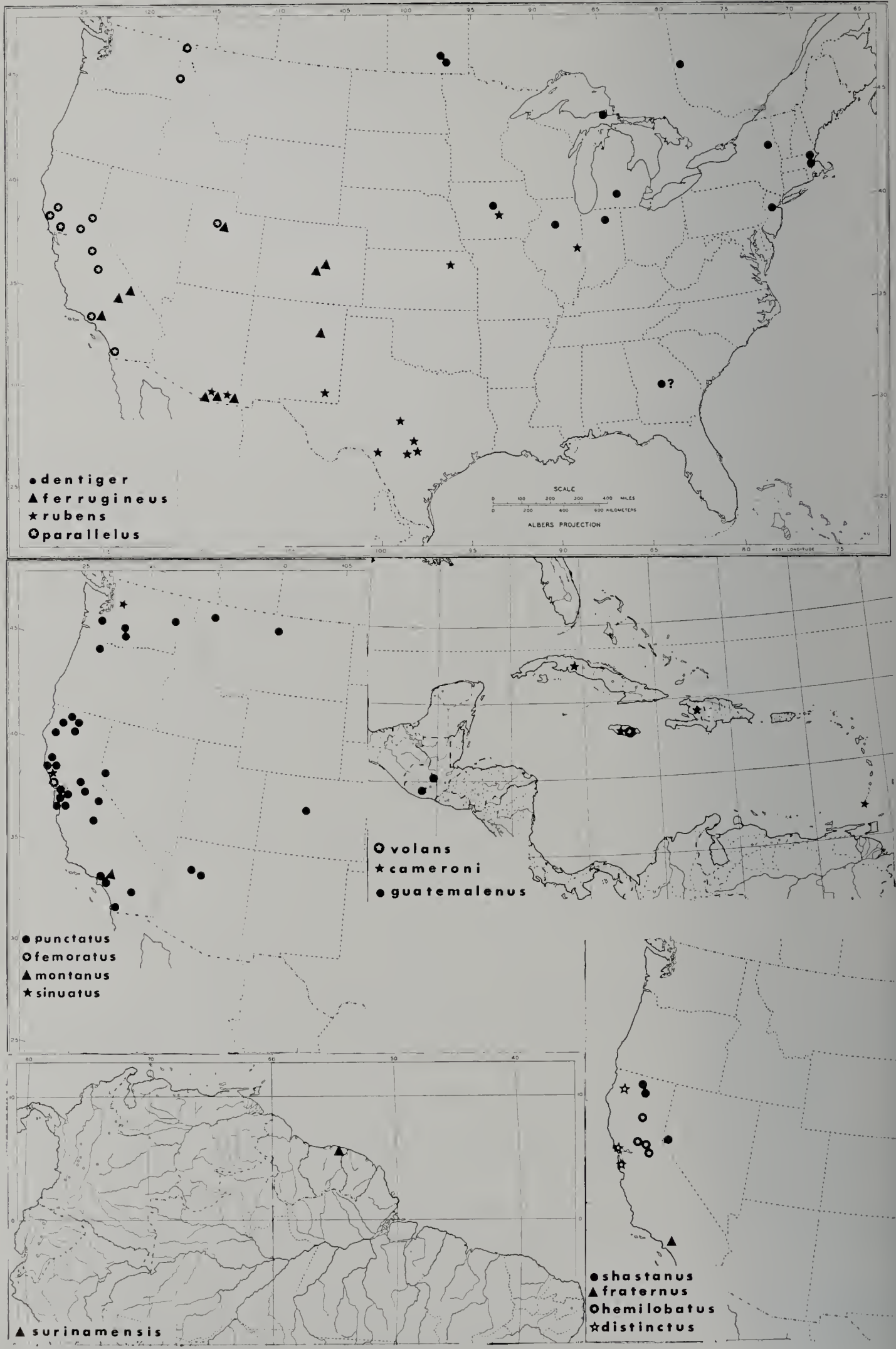


FIGURE 33, Distribution of *Orus* spp.

DESCRIPTION. *Orus*; (*Pycnorus*); piceous; male. *Head*: .61 mm. long, .54 mm. wide. *Thorax*: pronotum .67 mm. long, .53 mm. wide; elytra .59 mm. long, .64 mm. wide; metatibia denticulate mesally; metafemur with eleven denticles on distal portion. *Aedeagus*: apical portion of parameres slightly longer than in *O. parallelus* (fig. 14).

VARIATION. Head .58 mm.-.67 mm. long, .47 mm.-.57 mm. wide; pronotum .60 mm.-.72 mm. long, .47 mm.-.60 mm. wide; elytra .57 mm.-.67 mm. long, .57 mm.-.67 mm. wide.

DISTRIBUTION (fig. 33). MASSACHUSETTS: *Middlesex Co.*: Natick (May 30, 1930); Framingham (Mar. 25, 1944, Nov. 8, 1941); Cambridge; Tewksbury. NEW YORK: *Warren Co.*: Pike. NEW JERSEY: *Union Co.*: Roselle Park (Mar. 22, 1925); Elizabeth. MICHIGAN: *Wayne Co.*: Detroit; *Chippewa Co.*: White Fish Point. ILLINOIS; IOWA; GEORGIA(?)³. INDIANA: *Kosciusko Co.* (June 24, in Blatchley 1910:434). QUEBEC: Duparquet (Apr. 26, 1940, Sept. 15, 1935, May 10, 1936). MANITOBA: Stony Mountain (Apr. 21, 1916); Winnepeg.

BIOLOGY. This species has been collected from sphagnum moss at the edge of a Tamarack Marsh (Blatchley 1910:434), under stones, soil samples and on lake shores during March, April, May, June and November.

DISCUSSION. Casey's *Pycnorus iowanus*, described from one female specimen, is distinguished by the presence of a prominent gular tubercle. On examination of 41 females of *O. dentiger*, it was found that the holotype of *O. iowanus* is merely one end of the range of individual variation of the gular tubercle. Specimens from the eastern United States and eastern Canada generally have a feebly developed tubercle with more specimens from the West having a prominent tubercle.

Orus (Pycnorus) parallelus Casey

FIGS. 15, 33

Orus parallelus Casey, 1886:227; Fall 1901:223; Casey 1905:197; Leng 1920:104; Blackwelder 1939a:105; 1939b:24.

Scopaeus (Orus) parallelus (Casey), Bernhauer and Schubert 1912:250.

Scopaeus armiger Fall, 1901:225. (NEW SYNONYMY)

Pycnorus armiger (Fall), Casey 1905:195, 196; Leng 1920:104.

Scopaeus (Pycnorus) armiger Fall, Bernhauer and Schubert 1912:246.

Orus (Pycnorus) armiger (Fall), Blackwelder 1939a; Hatch 1957:160.

Orus boreellus Casey, 1905:197; Leng 1920:104; Blackwelder 1939a:105; 1939b:24. (NEW SYNONYMY)

Scopaeus (Orus) boreellus (Casey), Bernhauer and Schubert 1912:246.

Orus longicollis Casey, 1905:197; Leng 1920:104; Blackwelder 1939a:105. (NEW SYNONYMY)

Scopaeus (Orus) longicollis (Casey), Bernhauer and Schubert 1912:249.

Scopaeus (Orus) caseyanus Scheerpeltz, 1933:1265 (nom. nov. for *longicollis* (Casey), 1905, nom. preoccup. nec. Fauvel, 1874).

Orus caseyanus (Scheerpeltz), Blackwelder 1939b:24.

³ One specimen from the Horn Collection bears the label "Ga." I have seen no other specimens from as far south.

Orus provensis Casey, 1910:190; Leng 1920:104; Blackwelder 1939a:105; 1939b:24 (NEW SYNONYMY).

Scopaeus (Orus) provensis (Casey), Bernhauer and Schubert 1912:250.

HOLOTYPE of *Orus parallelus* Casey: California; U. S. National Museum⁴; female.

HOLOTYPE of *Scopaeus armiger* Fall: Pomona, California; Museum of Comparative Zoology; female.

HOLOTYPE of *Scopaeus (Orus) caseyanus* Scheerpeltz: Lake Tahoe, California; U. S. National Museum; female.

HOLOTYPE of *Orus boreellus* Casey; Coeur d'Alène, Idaho; U. S. National Museum; female.

HOLOTYPE of *Orus provensis* Casey: Provo, Utah; U. S. National Museum; female.

DESCRIPTION. *Orus*; (*Pycnorus*); piceous; male. *Head*: .60 mm. long, .54 mm. wide. *Thorax*: pronotum .67 mm. long, .52 mm. wide; elytra .70 mm. long, .70 mm. wide; metatibia not denticulate on mesal surface; metafemur with seven denticles on distal portion. *Aedeagus*: apical portion of parameres slightly shorter than that of *O. dentiger* (fig. 15).

VARIATION. Size: head .54 mm.-.60 mm. long, .47 mm.-.54 mm. wide; pronotum .56 mm.-.67 mm. long; .44 mm.-.53 mm. wide; elytra .67 mm.-.74 mm. long, .60 mm.-.74 mm. wide.

DISTRIBUTION (fig. 33). CALIFORNIA: *Los Angeles Co.*: Redondo (March), Pomona, Pasadena (Aug., Nov. 6, 1909); *San Diego Co.*: San Diego; *Lake Co.*: Nice (June 8, 1940); *Calaveras Co.*: Murphys (May 23, 1936, at 2500 feet elevation); *Madera Co.*: Bass Lake (Aug. 2, 1934); *Tulare Co.*: Woodlake (June 23, 1936); *Sonoma Co.*: Guerneville (June 26, 1908); *Napa Co.*: St. Helena. IDAHO: *Bonner Co.*: Priest River (June 21); *Kootenai Co.*: Coeur d'Alène. UTAH: *Utah Co.*: Provo.

Subgenus *Nivorus* Herman

Since the recent publication (Herman, 1965) on the subgenus *Nivorus* additional specimens have been received. They represent a new species. A description of that new species and a new key are presented below.

KEY TO THE DESCRIBED SPECIES OF NIVORUS

- | | | |
|----|--|--------------|
| 1. | Postorbital furrow contiguous with eye----- | 2 |
| | Postorbital furrow separated from eye----- | VOLANS |
| 2. | Second and third visible abdominal sterna with a transverse impression containing a ctenidium ----- | CAMERONI |
| | Second and third visible abdominal sterna without a transverse impression containing a ctenidium ----- | SURINAMENSIS |

⁴ In the original publication mention is made of three additional specimens from Napa and Sonoma Counties that are used for the description; only the holotype is in the Casey Collection.

Orus (Nivorus) surinamensis Herman, NEW SPECIES

FIGS. 13, 25, 31, 33

HOLOTYPE: Moengo, Cottica River, Surinam; collected by Boven on May 27, 1927; male; to be deposited with 2 paratypes, a male and female, at the Cornell University Museum.

DESCRIPTION OF THE HOLOTYPE. *Orus*; (*Nivorus*); testaceous; male. *Head:* rectangular in dorsal aspect; dorsum finely, indistinctly punctate, minutely sculptured; eye slightly tapered posteriorly; postorbital furrow distinct and contiguous with posterior margin of eye; .37 mm. long, .33 mm. wide. *Thorax:* pronotum finely punctate, .37 mm. long, .30 mm. wide; mesopleuron and mesosternum with microreticulate ground sculpturing; elytra .40 mm. long, .40 mm. wide. *Abdomen:* second and third visible sterna without a transverse impression containing a ctenidium; penultimate sternum emarginate, with a slight, median depression; depression with numerous short, stout setae; last visible sternum deeply and narrowly incised (fig. 13). *Aedeagus:* parameres obtusely attenuate in lateral aspect, broad in dorsal aspect; postforamen well-developed (figs. 25, 31).

DISCUSSION. Further differences between *O. surinamensis* and *O. cameroni* may be noted by reference to the description and illustrations Herman, 1965.

CATALOGUE OF ORUS

Orus Casey, 1884:136*Orus* s. str.

<i>punctatus</i> Casey, 1884:138	B. C. Cal. Mont. Ariz. Or. Wash. Nev.
<i>filius</i> Casey, 1905:200	
<i>pallidus</i> Casey, 1905:109	
<i>sonomae</i> Casey, 1905:198	
<i>shastanus</i> Casey, 1905:201	Cal. Nev.
<i>pugetanus</i> Casey, 1905:198	
<i>sinuatus</i> Herman, 1965:000	Cal. Wash.
<i>montanus</i> Fall, 1901:223	Cal.
<i>femoratus</i> Fall, 1901:223	Cal.
<i>hemilobatus</i> Herman, 1965:000	Cal.
<i>fraternus</i> Fall, 1901:223	Cal.
<i>distinctus</i> Casey, 1905:201	B. C. Cal.
<i>robustulus</i> Casey, 1905:199 ⁵	Cal.
<i>pinalinus</i> Casey, 1905:199 ⁵	Ariz.
<i>deceptor</i> Casey, 1905:200 ⁵	Cal.
<i>Pyncorus</i> Casey, 1905:191	
<i>dentiger</i> (LeConte), 1880:179	Mass. N. Y. Mich. N. J. Ill. Ia. Ind. Ga.(?) Que. Man.
<i>iowanus</i> (Casey), 1905:196	

⁵ Unidentified.

<i>parallelus</i> Casey, 1886:227	Cal. Ida. Ut.
<i>armiger</i> (Fall), 1901:225	
<i>boreellus</i> Casey, 1905:197	
<i>provensis</i> Casey, 1910:190	
<i>caseyanus</i> Scheerpeltz, 1933:1265	
<i>Leucorus</i> Casey, 1905:191	
<i>rubens</i> (Casey), 1905:194	Ill. Kan. Ia. Tex. ⁶ Ariz. N. Mex. ⁶
<i>ferrugineus</i> (Casey), 1905:193	Colo. Ut. S.Cal. N.Mex. Ariz.
<i>luridus</i> (Casey), 1905:193	
<i>ochrinus</i> (Casey), 1905:193	
<i>guatemalenus</i> Sharp, 1886	Guat.
<i>Nivorus</i> Herman, 1965:119	
<i>cameroni</i> Blackwelder, 1943:278	W.I.
<i>volans</i> Blackwelder, 1943:277	W.I.
<i>surinamensis</i> Herman, 1965:000	Surinam

ADDENDA

I recently received 20 specimens of *Orus* (*Leucorus*) *rubens* (Casey) collected from caves in Texas and New Mexico by James Reddell, Bill Russell and David McKenzie. Collections were made from the following localities: TEXAS: Travis Co.: Ireland's Cave, 15 mi. SW Austin (B. Russell, Apr. 10, 1964); Tooth Cave, 15 mi. NW Austin (J. Reddell, D. McKenzie, Mar. 15, 1964); Kretschmarr Fluted Sink, 15 mi. NW Austin (J. Reddell, B. Russell, Sept. 15, 1963); Beckett's Cave, 1 mi. S. Oak Hill (B. Russell, Dec. 5, 1964). San Saba Co.: Gorman Cave, 6 mi. SE Bend, Colorado River (J. Reddell, D. McKenzie, Mar. 15, 1963, in organic debris several hundred feet from the entrance). Real Co.: Skeleton Cave, 15 mi. NW Leaky (J. Reddell, D. McKenzie, Aug. 18, 1963). Hays Co.: Morton's Cave 5 mi. N. San Marcos (B. Russell, D. McKenzie, Sept. 9, 1963). NEW MEXICO: Eddy Co.: Milliped Cave, 20 mi. N. Carlsbad (J. Reddell, B. Russell, Dec. 31, 1964, in organic debris).

Included on the distribution maps (fig. 33) are records for the species of (*Leucorus*) and (*Nivorus*).

On a recent trip to California additional specimens and biological data were gathered including range extension for *Orus* (*Leucorus*) *ferrugineus* (Casey) and *Orus* (*Orus*) *sinuatus* Herman, locality data for an undescribed species of *Orus* and previously unknown habitat data for *Orus* (*Pycnorus*) *parallelus* Casey. Most significant is that *Orus punctatus* and *Orus sinuatus* may be collected along the same stream in apparently the same habitat (shore debris) and that *Orus* (*Pycnorus*) *parallelus* has been collected from fungus whereas *Orus* (*Pycnorus*) *dentiger* has been taken only in soil samples.

Orus (*Pycnorus*) *parallelus* Casey. CALIFORNIA: *Butte Co.*: Chico (March 12, 1960; from bracket and gill fungus, D. H. Kistner).

⁶ See addenda.

Orus (Pycnorus) dentiger (LeC.). INDIANA: *La Porte Co.*: Smith Station (May 23, 1953, May 5, 1956, D. H. Kistner).

Orus (Orus) punctatus Casey. WASHINGTON: *Spokane Co.*: Deep Creek Canyon (Aug. 12, 1956, in debris at edge of stream, R. A. Ward).

The following collections were made by the author.

Orus (Orus) sinuatus Herman. CALIFORNIA: *Tuolumne Co.*: 8 miles S.W. Dardanelle (in debris along shore of small stream intersecting Cal. rt. 108, July 13, 1965); *Mariposa Co.*: 0.5 miles N. Fish Camp at Big Creek (in debris along shore, elevation 4982 feet, July 14, 1965); *Madera Co.*: near Bass Lake on Pine Creek (debris along shore, elevation 3425 feet, July 16, 1965).

Orus (Leucorus) ferrugineus (Casey). CALIFORNIA: *Siskiyou Co.*: 5 miles E. McCloud (in flight between 6:50 and 7:30 P.M. PDT, June 29, 1965).

Orus (Orus) punctatus Casey. CALIFORNIA: *Siskiyou Co.*: 5 miles E. McCloud (in flight between 7:15 and 8:30 P.M. PDT, June 28, 1965); *Mariposa Co.*: 0.5 miles N. Fish Camp at Big Creek (in debris along shore, elevation 4982, July 14, 1965); *Madera Co.*: near Bass Lake on Pine Creek (under moss on rocks, elevation 3425, July 16, 1965); *Tulare Co.*: 5 miles S. Pine Flats at White River Camp on White River (under pine needle debris on shore, July 19, 1965, elevation 4146 feet).

Orus (Orus) n. sp. CALIFORNIA: *Siskiyou Co.*: McCloud (in debris along shore of stream, June 29, 1965).

LITERATURE CITED

ARNETT, R. H.

1961. The beetles of the United States. Part II. Fascicle 15. Staphylinidae. The Catholic University of America Press, Washington, D. C. 1112 pp., illus.

BERNHAEUER, M. and K. SCHUBERT

1912. Staphylinidae III. Coleopterorum Catalogus. Pars. 40. Berlin. Pp. 191-288.

BLACKWELDER, R. E.

1936. Morphology of the coleopterous family Staphylinidae. Smiths. Misc. Coll. 94(13):1-102, illus.

1939a. A generic revision of the staphylinid beetles of the tribe Paederini. Proc. U. S. Nat. Mus. 87:93-125.

1939b. Fourth supplement 1933 to 1938 (inclusive) to the Leng Catalogue of Coleoptera of America, north of Mexico. Mount Vernon, N. Y. 146 pp.

1943. Monograph of the West Indian beetles of the family Staphylinidae. Bull. U. S. Nat. Mus. 182:1-658, illus.

1944. Checklist of the coleopterous insects of Mexico, Central America, the West Indies and South America. Bull. U. S. Nat. Mus. 185(1):1-188.

1952. The generic names of the beetle family Staphylinidae with an essay on genotypy. Bull. U. S. Nat. Mus. 200:1-483.

BLATCHLEY, W. S.

1910. The Coleoptera or beetles of Indiana. Bull. Indiana Dept. Geol. Nat. Res. 1:1-1386, illus.

CASEY, T. L.

1884. Contributions to the descriptive and systematic coleopterology of North America 2:61-198.

1885. New genera and species of Californian Coleoptera. Bull. Calif. Acad. Sci. 1:283-336.

1886. Descriptive notes of North American Coleoptera. I. Bull. Calif. Acad. Sci. 2(6):157-264, illus.
1905. A revision of the American Paederini. Trans. Acad. Sci. St. Louis 15:17-248.
1910. Synonymic and descriptive notes and the Paederini and Pinophilini. Mem. Coleop. 1:184-201.
- CLARK, M. E.
1949. An annotated list of the Coleoptera taken at or near Terrace, British Columbia. II. Proc. Ent. Soc. British Columbia 45:21-24.
- FALL, H. C.
1901. List of the Coleoptera of Southern California, with notes on habits and distribution and descriptions of new species. Occ. Pap. Calif. Acad. Sci. 8:1-282.
- GIBSON, A.
1916. The entomological record, 1915. 46th Ann. Rep. Ent. Soc. Ontario 1915:194-230.
- GIBSON, A. and R. C. TREHERNE
1916. The cabbage root weevil and its control in Canada. Canadian Dept. Agr. Ent. Bull. 12:1-58. (Not seen)
- HATCH, M. H.
1957. The beetles of the Pacific Northwest. II. Staphyliniformia. University of Washington Press, Seattle. 384 pp., illus.
- HERMAN, JR., L. H.
1965. A revision of *Orus* Casey. I. Subgenus *Leucorus* Casey and a new subgenus. Coleoptera: Staphylinidae. Coleop. Bull. 1964 [1965] 18(4):112-121, illus.
- LECONTE, J. L.
1880. Short studies of North American Coleoptera. Trans. Amer. Ent. Soc. 8:163-218.
- LENG, C. W.
1920. Catalogue of the Coleoptera of America, north of Mexico. Mount Vernon, N. Y. 470 pp.
- SCHEERPELTZ, O.
1933. Staphylinidae VII. Coleopterorum Catalogus. Pars. 129. Berlin. Pp. 989-1500.
- SHARP, D. S.
1886. Staphylinidae. Biol. Centr.-Amer. Ins. Coleop. 1883-1887, 1(2):145-747, pls. 5-19.
- TREHERNE, R. C.
1916. The cabbage maggot in British Columbia. 46th Ann. Rept. Ent. Soc. Ontario 1915:140-145.

BEETLE TALK

The L. J. Bottimer collection of approximately 150,000 beetles was acquired in March 1965 by the Entomology Research Institute, Ottawa. Specimens of New World Bruchidae, about 40,000, are the outstanding feature.

ON *CICINDELA TUBERCULATA*: The Maori name is *kui*, the larvae being the personification of the mythical *Kui* who lived in the ground and was the original possessor of the land.—David Miller, 1955, Native Insects, Nature in New Zealand.